

EXECUTIVE OFFICER SUMMARY REPORT
April 9, 2008

- ITEM: 7
- SUBJECT: Poseidon Resources Corporation, Proposed Carlsbad Desalination Project - The Regional Board will consider approval of a Technical Report for Revised Flow, Entrainment, and Impingement Minimization Plan (a Special Study), dated March 6, 2008, which was submitted as required by Order No. R9-2006-0065, NPDES No. CA0109223. (Brian Kelley)
- PURPOSE: The Regional Board will consider adoption of Tentative Resolution No. R9-2008-0039, approving the Revised Flow, Entrainment, and Impingement Minimization Plan, dated March 6, 2008 and received on March 7, 2008.
- PUBLIC NOTICE: On March 7, 2008, the Revised Flow, Entrainment, and Impingement Minimization Plan, dated March 6, 2008 was posted on the Regional Board's website and made available at the Regional Board's office for review. On March 19, 2008, notification of this action was included in the April 9, 2008 agenda notice.
- DISCUSSION: Poseidon Resources Corporation (Poseidon) proposes to construct and operate the Carlsbad Desalination Project (CDP) on a four-acre parcel within the footprint of the current Encina Power Station (EPS) (Attachment 1a). The proposed CDP would use approximately 300 MGD of seawater, a portion of EPS's once through cooling water intake, to produce up to 50 MGD of potable water (Attachment 1b). The industrial processes for the CDP will consist of pretreatment, desalinization by reverse osmosis (RO), disinfection and product water stabilization.
- On August 11, 2006, the Regional Board adopted Order R9-2006-0065 NPDES No. CA0109223 (Attachment 2) establishing waste discharge requirements for up to 57 million gallons per day (MGD) combined concentrated saline wastewater, and filter backwash wastewater, to be

discharged by the CDP into the Pacific Ocean. The CDP plans to operate in conjunction with the power generation operations at EPS, resulting in the diversion of approximately 300 MGD of the seawater extracted from Agua Hedionda Lagoon for desalinization operations at CDP. The proposed operations at the CDP will use up to 100 MGD for the production of the 50 MGD of potable water, with the remaining 200 MGD to be used for dilution of 57 MGD of concentrated saline and filter backwash wastewater streams that are discharged into the Pacific Ocean via the EPS's cooling water discharge channel.

Section VI.C.2(e) of Order No. R9-2006-0065 states:

Flow, Entrainment and Impingement Minimization Plan

The Discharger shall submit a Flow, Entrainment and Impingement Minimization Plan within 180 days of adoption of the Order. The plan shall assess the feasibility of site specific plans, procedures, and practices to be implemented and/or mitigation measures to minimize the impacts to marine organisms when the CDP intake requirements exceed the volume of water being discharged by the EPS. The plan shall be subject to the approval of the Regional Water Board and shall be modified as directed by the Regional Water Board.

Therefore, this section requires Poseidon to submit (within 180 days of adoption), a plan to minimize the impacts to marine organisms during these operating conditions. The proposed CDP constitutes a new industrial installation that is subject to statutory requirements of California Water Code Section 13142.5, which mandates that dischargers use best available site, design, technology, and mitigation measures feasible to minimize the intake and mortality (i.e., "impingement and entrainment") of all forms of marine life.

Although the proposed CDP plans to operate in conjunction with the EPS, the CDP's intake requirements may, at times, exceed the volume of seawater required to sustain power generation operations at the EPS. The EPS will continue to draw in seawater to meet the CDP's minimum intake requirements, even if the power generation operations at EPS are temporarily offline and/or operating under conditions requiring less than CDP's minimum seawater requirements.

On February 12, 2007, Poseidon submitted the first draft of their Flow, Entrainment, and Impingement Minimization Plan (Plan) to satisfy the requirements of NPDES Permit Section VI.2(e). In response to extensive comments from the Regional Board, other agencies, and interested parties; Poseidon revised and resubmitted the Plan on June 27, 2007.

Poseidon also submitted a Coastal Habitat Restoration and Enhancement (CHRE) Plan (October 2007). The preparation of the CHRE plan was required by the California Coastal Commission (CCC), but also augmented the mitigation section of the Plan. At the direction of the CCC, Poseidon submitted a Revised Coastal Habitat Restoration and Enhancement Plan (November 2007). All the referenced planning documents and any Regional Board responses are available on-line at <http://www.waterboards.ca.gov/sandiego/misc/desalination/desalination.html>.

On February 19, 2008, the Regional Board provided extensive comments on a second draft of the "Flow, Entrainment, and Impingement Minimization Plan" and "Revised Coastal Habitat Restoration and Enhancement Plan." On March 4, 2008, the staff from the North Core Regulatory and Central Watershed Units met with Poseidon to discuss Regional Board written comments dated February 19, 2008 (Attachment 3). On March 7, 2008, Poseidon submitted a revised version of the Plan (Attachments 4a and 4b), and written responses to the Regional Board comments (Attachment 5) on the second draft of the Plan.

Public Comment

The proposed Carlsbad Desalination Project (CDP) has a high level of interest within State agencies, municipalities, and the general public. The proposed CDP was a well attended and controversial agenda item heard by the State Lands Commission (on October 30, 2007) and California Coastal Commission (on November 15, 2007). On March 14, 2008, the San Diego Desal Partners provided a letter in support to the Regional Board to approve Poseidon's latest Plan (Attachment 6).

On March 19, 2008, the San Diego Coastkeeper & Surfrider Foundation submitted a letter in requesting additional time to

comment on the Plan (Attachment 7). In addition, the California Coastal Commission provided written comments on March 20, 2008 requesting additional time (Attachment 8).

LEGAL CONCERNS: None.

SUPPORTING
DOCUMENTS:

- 1a. Location Map
- 1b. Poseidon Flow Schematic
2. Order R9-2006-0065 NPDES No. CA0109223
3. Regional Board Comment Letter (February 19, 2008)
- 4a. Revised Flow, Entrainment, and Impingement Minimization Plan (March 6, 2008)
- 4b. Revised Flow, Entrainment, and Impingement Minimization Plan (March 6, 2008)
5. Poseidon Response to February 19, 2008 Regional Board Comments (March 7, 2008)
6. San Diego Desal Partner Letter (March 14, 2008)
7. San Diego Coast Keeper & Surfrider Foundation Letter (March 19, 2008)
8. California Coastal Commission Letter (March 20, 2008)

RECOMMENDATION: The Executive Officer will provide a recommendation at the conclusion of the item.